Fort George G. Meade

Former Pesticide Shop

Restoration Advisory Board Meeting
January 16, 2014

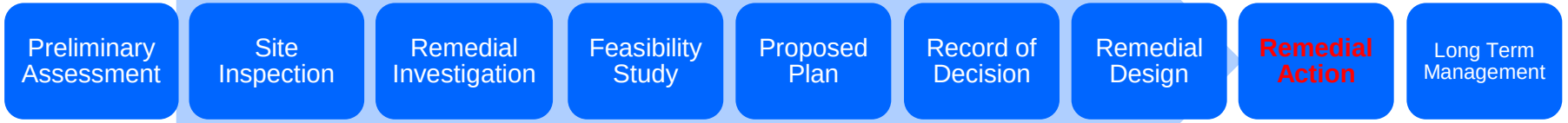
Presentation Agenda

- Status in CERCLA Process
- Site Background
  - Location, history, site features
  - Previous presentations
- Field investigations since the ROD
- Overview of the selected remedy
- Construction update (focus of the presentation)
- Future activities

Status of CERCLA* Process

- ✓ Remedial Investigation (RI) - characterization of site
- ✓ Feasibility Study (FS) - assessment of possible remedies
- ✓ Proposed Plan (PP) - solicit public input on preferred remedy
- ✓ Record of Decision (ROD) - legal documentation of remedy selection (09/26/2012)
- ✓ Remedial Design (RD) - remedy implementation plan (11/13/2013)
- ❑ Remedial Action (RA) - remedy implementation (in progress)

*Comprehensive Environmental Response, Compensation, and Liability Act



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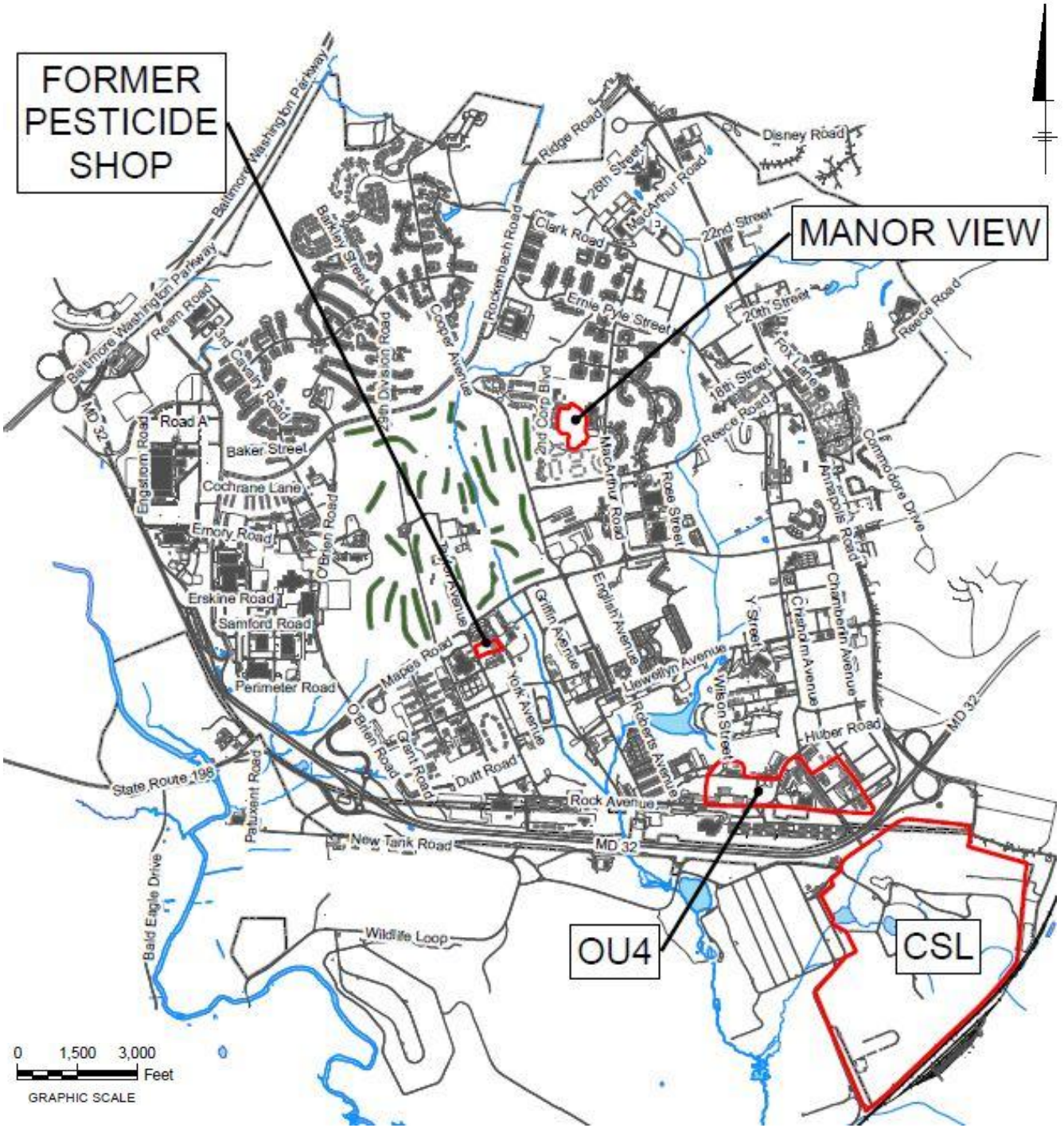
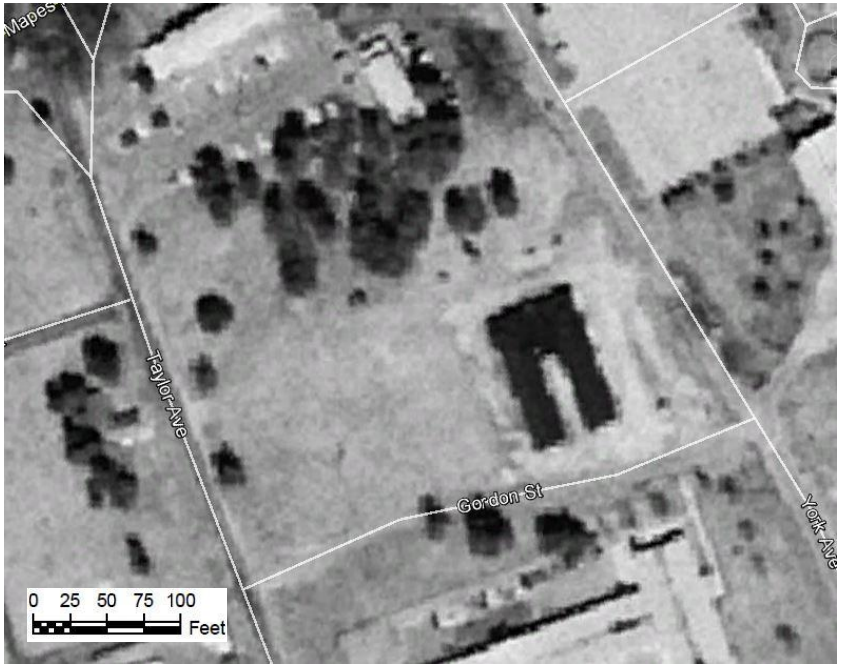
Former Pesticide Shop Background

- Used as a pesticide shop for 20 years from 1958 through 1978 housing a maintenance facility for landscaping equipment.
- Building demolished and the Site graded in 1996.
- Soils impacted with pesticides from spills


FORMER PESTICIDE SHOP
MANOR VIEW
OU4
CSL
Baltimore Washington Parkway
Ridge Road
Disney Road
28th Street
MacArthur Road
22nd Street
Clark Road
Barkley Street
Rockenbach Road
Ernie Pyle Street
20th Street
Reece Road
Fox Lane
18th Street
Cooper Avenue
Division Road
Reem Road
2nd Cavalry Road
MD 32
Road A
Baker Street
Cochrane Lane
Emory Road
Engstrom Road
O'Brien Road
Erskine Road
Samford Road
Perimeter Road
Maples Road
Griffin Avenue
English Avenue
Llewellyn Avenue
Roberts Avenue
Wilson Street
York Avenue
Dutt Road
Grant Road
Rock Avenue
New Tank Road
Huber Road
Y Street
Chamberlin Avenue
Chadwick Avenue
Annapolis Road
Commodore Drive
Rose Street
State Route 198
Patuxent Road
Bald Eagle Drive
Wildlife Loop
0 1,500 3,000 Feet
GRAPHIC SCALE


York Avenue
Former Building
6621
Taylor Avenue
Gordon Street
0 25 50 75 100
Feet

Former Pesticide Shop Aerial View



Aerial: 1993

Aerial: 2012

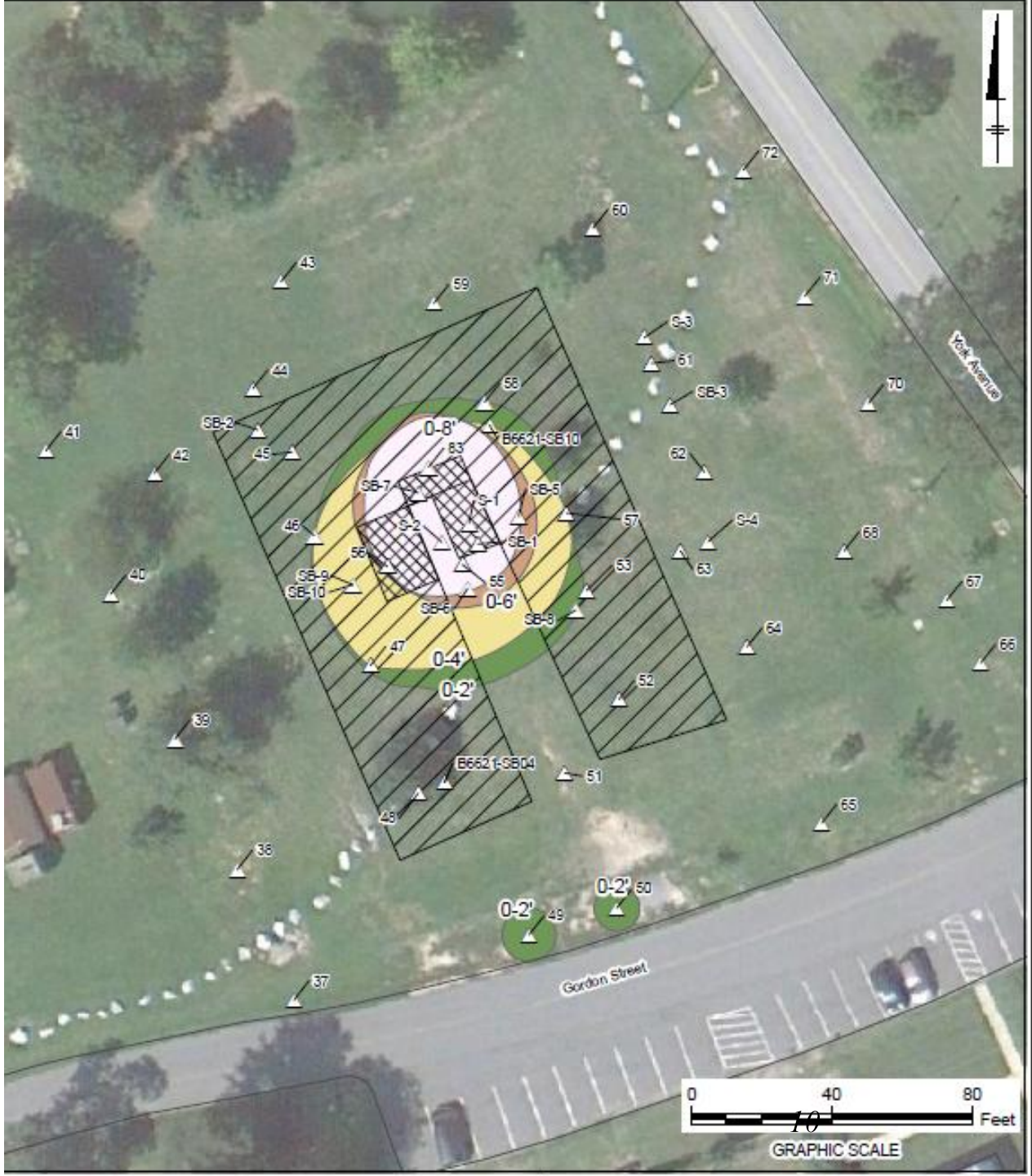
Photo Credit: United States Geological Survey, accessed via Google Earth

Previous Field Investigations

- RI fieldwork conducted between 1997 and 2010
- Soil sampling revealed the presence of arsenic and pesticides (Chlordane and Heptaclor Epoxide)
- Groundwater sampling revealed the presence of volatile organic compounds and pesticides
- Impacts in both soil and groundwater are limited to the general vicinity

Soil Remedy as Presented in the Record of Decision

- 0 to 2 feet bgs
- 0 to 4 feet bgs
- 0 to 6 feet bgs
- 0 to 8 feet bgs



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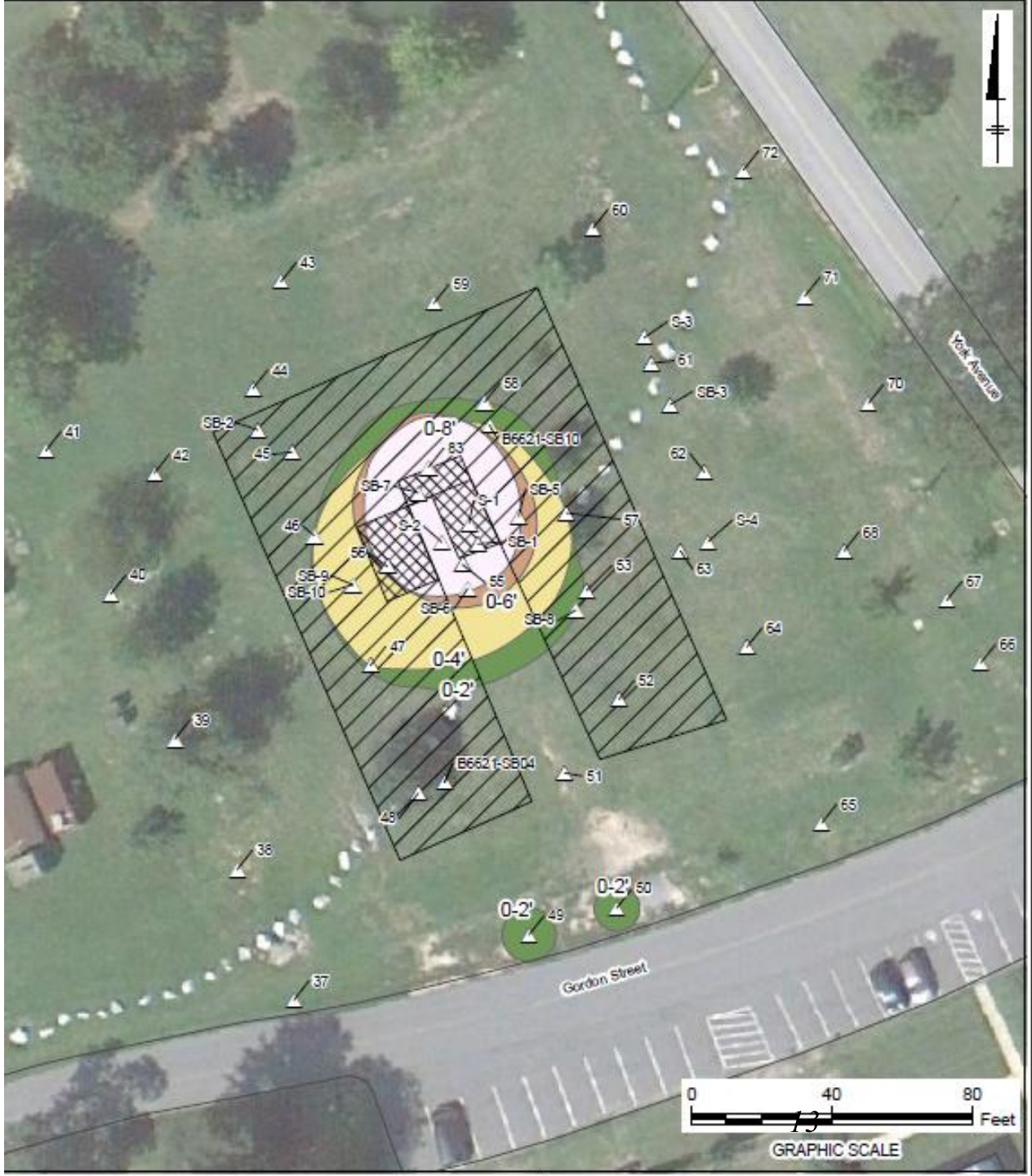
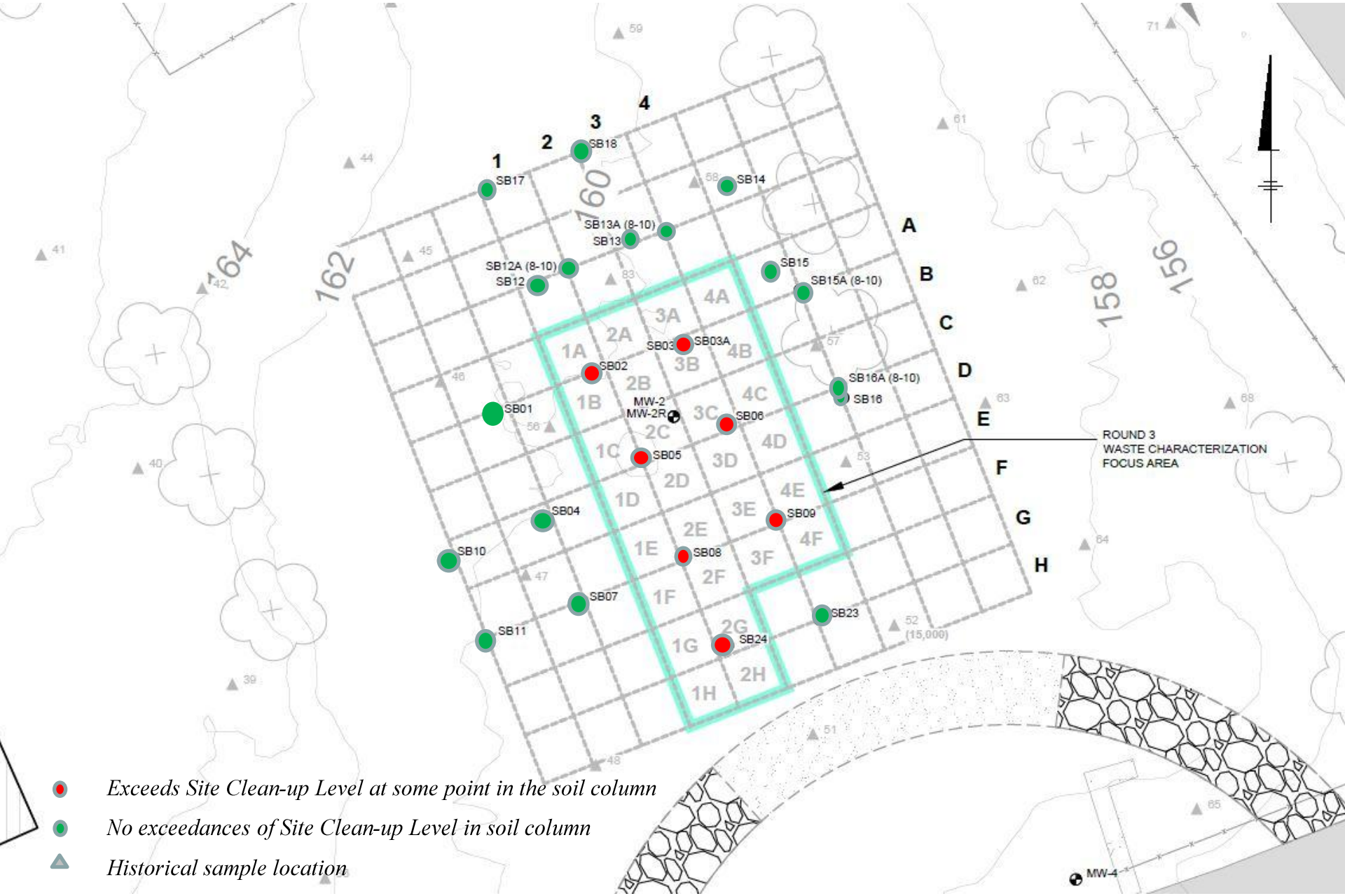
Pre-Design Field Investigations (Soil)

- Intent
  - Set excavation limits
  - Characterize waste
- Three Rounds vertical soil sampling with geoprobe
  - November 2012
  - January 2013
  - June 2013
- Results (Discussed on the following Slides)

Soil Remedy as Presented in the Record of Decision

- 0 to 2 feet bgs
- 0 to 4 feet bgs
- 0 to 6 feet bgs
- 0 to 8 feet bgs





Exceeds Site Clean-up Level at some point in the soil column

No exceedances of Site Clean-up Level in soil column

Historical sample location

Data Conclusions

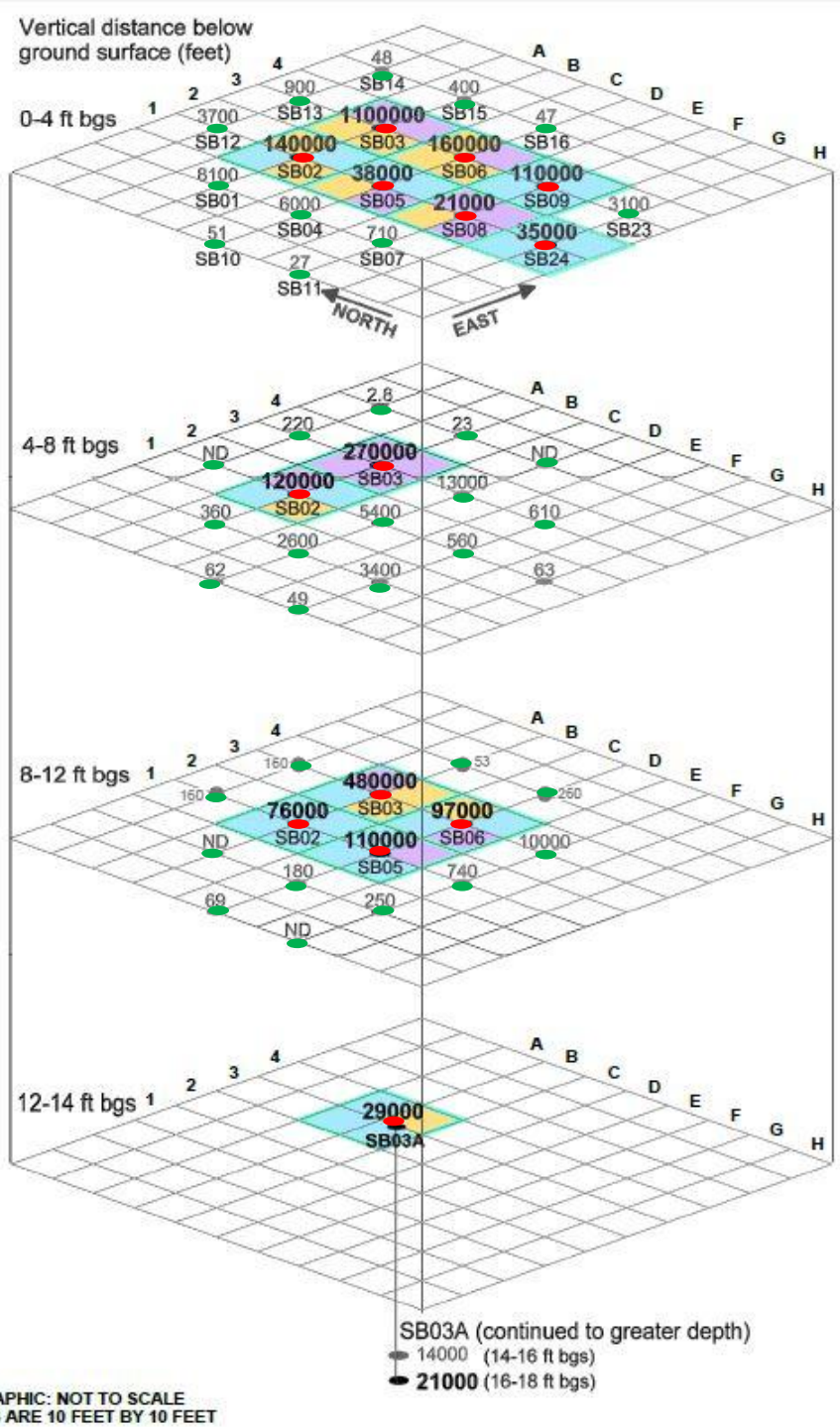
- The site is delineated.
- Contamination mostly limited to surface.
- Concentrations decline with depth.
- What do the colored grids mean?

  - Blue: Non-Hazardous--greater than 16 ppm. Passed TCLP leaching test

  - Lavender: Hazardous—Failed TCLP but less than 50 ppm (250 tons)

  - Orange: Hazardous—Failed TCLP and greater than 50 ppm (350 tons)

- Each of these waste streams needed to be handled differently going to 3 different off-site disposal facilities



Implications of the Pre-Design Investigation

- Increased Volume
  - Refined site characterization and understanding since the ROD
  - Additional depth of excavation
- Increased Cost
  - Due to additional soil volume
  - Due to “hazardous” soil (transport, treatment, and disposal)
- Captured in an “Explanation of Significant Differences” (11/07/2013)
  - Provides notification of a proposed change to the remedy that deviates from the ROD but is not a different remedy
  - Included as part of the administrative record
- The changes noted here do not adversely affect the outcome of the remedy

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Soil Remedy

Site Preparation
(11/14/13 – 12/11/13)

- Survey Control and Site Layout
- Establish Grids
- Utility Location
- E&SC
- Establish Traffic control
- Establish H&S Procedures (air monitoring, excavation monitoring)
- Collect backfill samples
- Notify adjacent facilities

Excavate, Transport, and Dispose
(Completion End of Jan)[1]

- Excavate 1200 tons of Soil
- Depth of excavation varies from 4 ft bgs to 16 ft bgs
- Approximately 100 ft x 40 ft excavation
- Transportation (50-60 trucks)
- Confirmation Sampling

Site Restoration
(Feb 2014)[1]

- Import common borrow
- Import top soil
- Regrade site
- Stabilize and seed soil
- Prepare for groundwater remedy

[1]indicates an anticipated start/stop date

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Site Preparation (Facing South): survey control and perimeter security

Site Preparation (Facing Southeast): access road, silt fence, traffic controls

(Facing South) Preparing for trucks

(Facing West) Establish the Grids

(Facing East) Maintaining the Grids

(Facing East) Driving Steel Plate to Maintain Grids at Depth

(Facing North) Preparing the Site for the Holidays

(Facing Southeast) Stockpile Maintenance and E&SC

(Facing East) Loading and Site Control

(Facing South): Purple Staining in Soil Grid C1

Video Clip of Excavation and Load-out

Current Status

- First two soil layers have been excavated
- 36 of 56 grids are excavated
- Approximately 15 trucks to completion
- 300 CY of soil left to excavate
- Collect and analyze post excavation and stockpile samples
- Continue with air monitoring, E&SC inspections, and preparing for backfilling and site restoration
- Project challenges

Project Challenges

- Trucking issues
- Cold weather
- Dewatering

(Facing West) Perched Groundwater Accumulation

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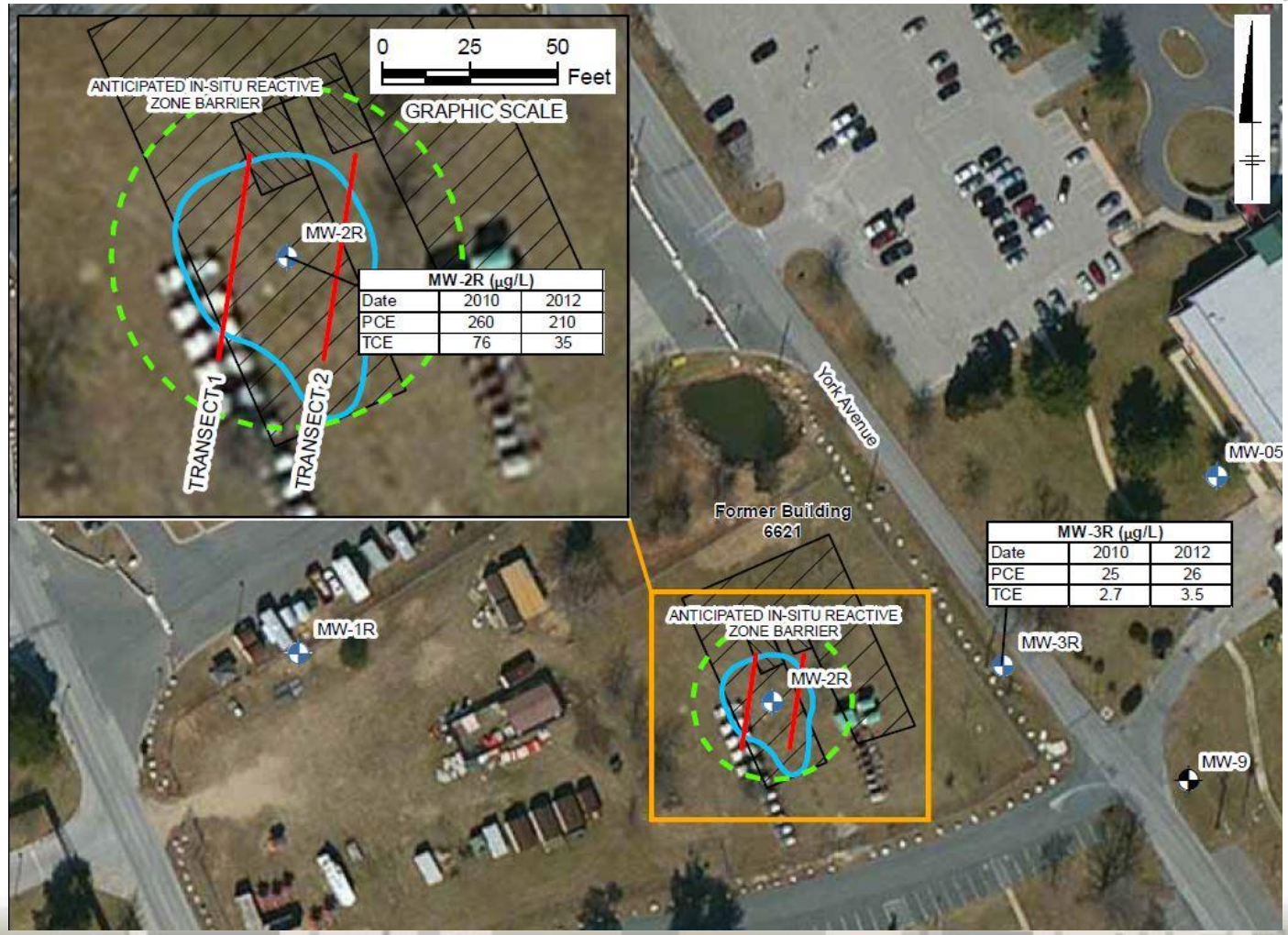
Future Activities

Activity	Anticipate Date
Implement Site Restoration and Stabilization	In Progress
Implement EVO Injection (duration of one week)	02/2014
Implement Baseline Sampling Event	02/2014
Submit Draft Remedial Action Completion Report	03/2014

Groundwater Remedy

Injection of Emulsified Vegetable Oil



Questions/Comments?

Acronyms

ARAR	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
DoD	Department of Defense
ERD	Enhanced Reductive Dechlorination
EVO	Emulsified Vegetable Oil
FS	Feasibility Study
LTM	Long Term Monitoring
LUC	Land Use Control
MDE	Maryland Department of the Environment
PP	Proposed Plan

Acronyms (Cont'd)

RA	Remedial Action
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
USEPA	U.S. Environmental Protection Agency

Glossary

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): This federal law was passed in 1980 and is commonly referred to as the Superfund Program. It provides for liability, compensation, cleanup, and emergency response in connection with the cleanup of inactive hazardous waste disposal sites that endanger public health and safety or the environment.

Feasibility Study (FS): This CERCLA document reviews the risks to humans and the environment at a site, and evaluates multiple remedial technologies for use at the site. Finally, it identifies the most feasible Response Actions.

Glossary (Cont'd)

Long Term Monitoring (LTM) – LTM is conducted to monitor the performance of the remedy over time. LTM includes groundwater sampling and reporting.

Land Use Controls (LUCs) – LUC are physical, legal, or administrative mechanisms that restrict use of or limit access to, real property, to manage risks to human health and the environment. Physical mechanisms encompass a variety of engineered remedies to contain or reduce contamination and/or physical barriers to limit access to real property, such as fences or signs.

Operation and Maintenance (O&M): Annual post-construction cost necessary to ensure the continued effectiveness of a Response Action.

Record of Decision (ROD): This legal document is signed by the Army and the USEPA and will be reviewed by the MDE for concurrence. It provides the cleanup action or remedy selected for a site, the basis for selecting that remedy, public comments, responses to comments, and the estimated cost of the remedy.

Glossary (Cont'd)

Remedial Investigation (RI): An investigation under CERCLA that involves sampling environmental media such as air, soil, and water to determine the nature and extent of contamination and human health and environmental risks that result from the contamination.

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